

THE RISE IN METHAMPHETAMINE USE AMONG AMERICAN INDIANS IN LOS ANGELES COUNTY

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Abstract: A preliminary review of substance abuse treatment admission data from 2001-2005 was conducted to explore the use of methamphetamine among American Indians in treatment programs funded by Los Angeles County. Comparisons were made between primary methamphetamine users and users whose primary drug was a substance other than methamphetamine. In that period, the number of American Indians reporting methamphetamine as their primary drug in Los Angeles County significantly increased, particularly among females.

Methamphetamine (MA) use and production has become an exigent concern for many American Indian and Alaska Native (AI/AN) communities. There is growing evidence of the problems of MA use and production on AI reservations (e.g., Committee on Indian Affairs, 2006; Evans, 2006; Office of Applied Studies, 2005a). In April 2005, Arizona Senator John McCain and his colleagues on the U.S. Senate Committee on Indian Affairs convened a hearing on the impacts of MA on AI communities. The testimony of Kathleen W. Kitcheyan, Chairwoman of the San Carlos Apache Tribe, gave voice to the growing concerns about MA:

The rapid rise and spread of meth use and production has multiplied the challenges to the safety and well-being of the San Carlos Apache people. The use, production, and trafficking of meth is destroying my community—shattering families, endangering our children, and threatening our cultural and spiritual lives (Committee on Indian Affairs, 2006).

Methamphetamine is a potent stimulant that is used worldwide. It is known for being a highly addictive drug that can lead to serious health risks. According to the Substance Abuse and Mental Health Services' Treatment Episode Data Set, there has been a marked increase nationally in the number of people seeking treatment for MA. In 1993, there were 21,000 admissions to publicly funded treatment in the U.S. In 2003, the number rose to 117,000 admissions (Office of Applied Studies, 2005b). Studies of the general U.S. population have illuminated the problem of MA use among AI/ANs (Iritani, Hallfors, & Bauer, 2007; Office of Applied Studies, 2005a). For example, a national study of crystal MA use among young adults in the U.S. found that AI/ANs were 4.2 times more likely than Whites to report past year use of MA (Iritani et al.).

Nationally, AI/ANs predominately seek substance abuse treatment services for alcohol; however, the number of AI/ANs seeking treatment for illicit drug use appears to be rising. In 1994, 23.6% of AI/ANs who entered treatment did so for illicit drug use. In 2002, the number rose to 37.1% (Office of Applied Studies, 2005b). Methamphetamine use has become a particularly significant problem. The number of Indian Health Service outpatient treatment encounters attributed to amphetamine/MA use has increased substantially over the years. In 1997, 136 visits were related to amphetamine/MA use; by 2004, the number of such visits had increased to 4,046 (Indian Health Service, 2005). A large treatment outcome study in California found that 28% of AI/AN treatment seekers reported amphetamines as their primary drug problem (Evans, Spear, Huang, & Hser, 2006). The rate of primary amphetamine use for AI/ANs was higher than that for other illicit drugs, including marijuana, cocaine, heroin, and other street drugs (Evans et al.).

Treatment admissions for MA use have risen steadily in Los Angeles County since 2000. In 2001, 16% ($N=5,237$) of all adults reporting for treatment in county-funded programs reported MA as their primary drug. During this same year, cocaine, alcohol, and heroin were the three most commonly reported primary drug problems. In 2005, admissions for primary MA use nearly doubled to 30% ($N=8,207$), and MA became the most frequently reported primary drug problem (Crèvecœur, Finnerty, & Rawson, 2002; see also Office of Health Assessment & Epidemiology, 2006). The number of primary MA users entering treatment in Los Angeles County has risen for most ethnic groups over the last 5 years, most notably for Whites, Hispanics, Asians, Native Hawaiians, and AI/ANs. The only group that did not show an increase in treatment admissions for primary MA use was African Americans (Crèvecœur, Snow, & Rawson, 2006).

The influx of MA into rural AI/AN communities was documented in a 2006 report commissioned by the Bureau of Indian Affairs (Evans, 2006). The report summarized results from a survey of 96 tribal law enforcement agencies across the U.S. Respondents were asked questions about the presence of MA in their communities, the extent of MA-related crimes, and the impact of MA-related problems on local law enforcement agencies. Seventy-four percent of respondents cited MA use as the top drug problem in their communities; 64% of respondents indicated that domestic violence crimes had increased because of the presence of MA in their communities. Increases in burglary (reported by 57% of respondents), assault and battery (reported by 64%), and child neglect/abuse (reported by 48%) associated with MA use were also noted (Evans, 2006).

There is currently little information on MA use among urban adult AI/ANs. Los Angeles County provides a unique opportunity to study substance abuse patterns among urban AI/ANs. California has the largest AI/AN population in the U.S.— 696,633 individuals (U.S. Census Bureau, 2006). The AI/AN population in Los Angeles County is 153,951. This is the largest concentration of urban AI/ANs in the U.S. In terms of substance abuse treatment, approximately 6,000 AI/ANs receive publicly funded treatment in California each year. Los Angeles County typically serves 300-600 AI/ANs each year (Los Angeles County Department of Health Services, 2007).

The purpose of this article is to report findings from an exploratory examination of Los Angeles County adult treatment admission data from 2001-2005. The goal of the study was (1) to explore the extent of MA use among urban AI/ANs over time, and (2) to examine similarities and differences in characteristics and patterns of use between AI/ANs admitted to treatment for primary MA use and AI/ANs admitted for use of a primary drug other than MA (non-MA users).

Methods

Procedures

The data were submitted by Los Angeles County-funded alcohol and other drug treatment programs to the Los Angeles County Evaluation System, a treatment outcomes study run by researchers at UCLA Integrated Substance Abuse Programs (Crèvecœur et al., 2002). All data were stripped of any information that might be used to identify a specific treatment participant prior to their receipt by UCLA.

All analyses were performed using SPSS, version 14.0.

Measures

The Los Angeles County Participant Reporting System Admission and Discharge Questions.

The Los Angeles County Participant Reporting System (LACPRS) questionnaire was developed and implemented by the Los Angeles County Alcohol and Drug Program Administration (ADPA). The LACPRS system allows treatment providers to access and enter data directly into the ADPA file server via the Internet. Treatment providers administer the LACPRS questionnaire as an interview with all participants at treatment entry and discharge. Pre-post comparisons are used to assess treatment outcomes. The data are based on participants' self-report.

The LACPRS questionnaire includes demographic, substance abuse, and health-related variables. The demographic variables consist of questions regarding the sex, race/ethnicity, age, disability, and veteran status of the treatment participant, as well as whether they are homeless. The substance use questions include the identification of the primary and secondary substances of abuse, routes of administration, frequency of use, and age at first use of the primary/secondary substances. There are additional questions regarding medical/psychiatric problems and treatment, employment-related activities, legal issues, and family conflict.

Many of the items were taken directly from the Addiction Severity Index (ASI; McLellan, Luborsky, Woody, & O'Brien, 1980). The ASI is a standardized assessment tool designed for individuals seeking substance abuse treatment. The ASI has been validated for use with diverse populations (McLellan et al., 1985); however, there have been no studies validating the use of the ASI for AI/AN populations and other U.S. minority populations. The LACPRS, like the ASI, does not capture culturally-specific information for AI/AN populations, e.g., tribal affiliation, acculturation level, and use of substances for ceremonial purposes.¹ Additionally, the LACPRS does not include a question on sexual orientation, nor transgender status. The LACPRS was designed to be brief and universal to Los Angeles County substance abuse treatment providers.

Sample

AI/ANs represent only 1.4% of the total treatment population in Los Angeles County. Data from five consecutive calendar years (2001-2005) were combined² creating a sample of 2,285 treatment admissions.

Treatment participants self-identify as AI or AN. The two ethnicities were combined on the LACPRS questionnaire until 2004. Based on the data from 2004 and 2005, there were a total of 229 ANs in the sample.

Over the five years, 29.8% ($n = 681$) of the admissions were for treatment of primary alcohol use, 25.7% ($n = 587$) for primary MA use, 17.3% ($n = 395$) for primary cocaine use, 13.6% ($n = 310$) for primary heroin use, 10.6% ($n = 242$) for primary marijuana use, and 3% ($n = 70$) for other drug use. The total number of admissions included in the MA group was 587 and the total number in the non-MA group was 1,698. See Appendix Table A for a breakdown of the number of primary MA users by year.

In terms of the treatment modalities where participants sought care, 49.5% in the MA group entered outpatient treatment (non-pharmacologic), 46% entered residential treatment, and 4.5% entered daycare habitative treatment (an intensive form of outpatient counseling designed for women with dependent children). Among participants in the non-MA group, 47.6% entered outpatient drug-free treatment, 44.9% entered residential treatment, 4.7% entered narcotic treatment programs, which primarily treat heroin addiction, and 2.8% went to daycare habitative treatment.

Results

Rise in treatment admissions for primary MA use among urban AI/ANs

The percentage of AI/AN individuals in Los Angeles County seeking treatment for MA as a primary drug problem increased between 2001 and 2005 (see Figure 1). In 2001, 24.8% of AI/AN participants ($n = 133$) reported MA as their primary drug. In 2005, this number rose to 31% ($n = 213$). In 2004, MA replaced alcohol as the most commonly reported primary drug problem by AI/AN individuals at treatment admission (29.8% and 26.3%, respectively), and this trend continued into 2005 (31% and 26.5%, respectively).

A closer examination of the data indicated that the rise in AI/AN treatment admissions for primary MA use was driven primarily by AI/AN females, who have consistently reported higher rates of MA use than AI/AN males. When primary MA use among AI/ANs was broken out by gender, it became clear that alcohol was still the primary drug problem reported by males, whereas MA had become a more significant drug issue for AI/AN females. In 2001, 31.7% of females and 17.5% of males

reported MA as their primary drug. The proportion of AI/AN females admitted to treatment for a primary MA problem increased to 40.3% in 2005. The proportion of male AI/ANs admitted to treatment for MA rose to 23.8%; however, over the years, an increasing number of women sought treatment for primary MA use, $\chi^2 (1) = 37.03, p < .001$. Figures 2 and 3 illustrate the changes in alcohol and primary MA use among females and males over the years.

Figure 1
Primary Drug Admissions for AI/AN Treatment Participants
in Los Angeles County (N = 1,268)

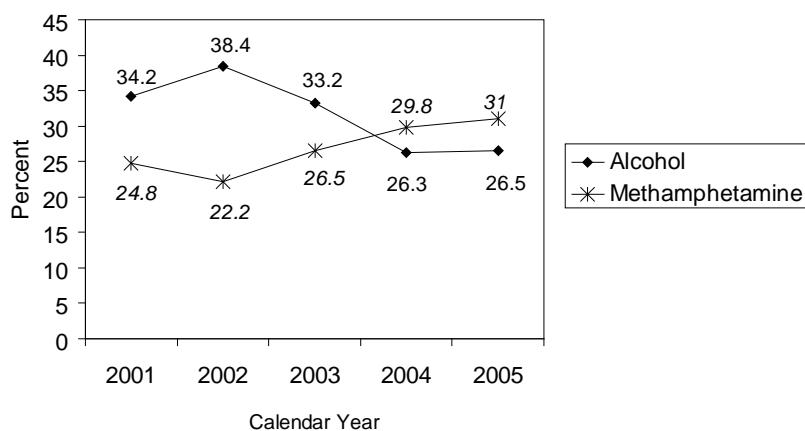


Figure 2
Primary Drug Admissions for Female AI/AN Treatment Participants in Los Angeles County (N = 970)

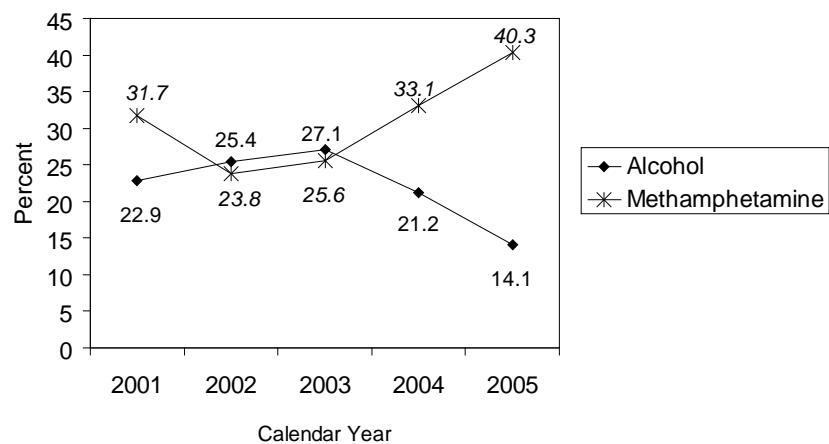
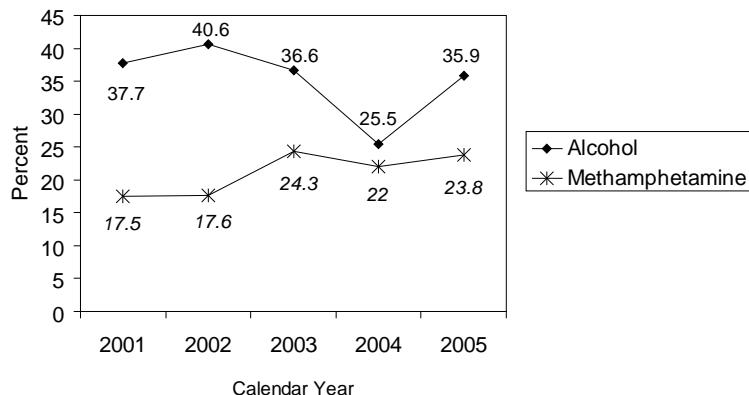


Figure 3
Primary Drug Admissions for Male AI/AN Treatment Participants in Los Angeles County (N = 1,315)



Characteristics of the MA and non-MA groups

Table 1 summarizes the sample characteristics for the MA and non-MA groups. There were significantly more females in the MA group (53.2%) compared to the non-MA group (38.8%). Participants in the MA group were younger than their counterparts in the non-MA group ($M = 33.6$, $SD = 8.8$; $M = 37.5$, $SD = 10.8$, respectively; $t [1989] = -8.059$, $p < .001$). There was also a difference in mean age by gender for the MA group, where females, on average, were younger ($M = 31.6$, $SD = 8.3$) than males ($M = 35.9$, $SD = 8.9$), $t (496) = 5.520$, $p < .001$. There was a significant difference in disability (e.g., cognitive, hearing, visual, speech, mental, mobility, or developmental) in that 17.9% of the MA group reported a disability as compared to 23.7% of the non-MA group, $\chi^2 (1) = 8.46$, $p < .01$. The most common type of disability reported by both groups was mental impairment (8.3% for the MA group and 10.3% for the non-MA group). The rates for other types of disabilities were in the 2-4% range, with visual and mobility impairments being the next most common. The rates for the non-MA group were slightly higher for both visual and mobility impairments.

Approximately one-third of participants in each group reported being homeless (31.9% of MA, 29.8% of non-MA). It is worth noting that the rates of homelessness and reported disability among American Indian MA users are higher than what we have observed for non-American Indian MA users in the LACPRS database (see Crèvecoeur et

al., 2006, for a review of treatment participant data). Based on a review of all MA users in the LACPRS sample, we found that approximately 32% of American Indian MA users reported being homeless, compared to 23.5% for non-American Indian MA users. Similarly, more American Indian MA users reported having a disability than did non-American Indian MA users, 17.9% and 9.5%, respectively. While the LACPRS system collects information on homelessness, mental illness, and other disabilities, data on the types of interventions that AI/ANs may have received as part of their treatment are unavailable.

Table 1
**Sample Characteristics for AI/ANs Admitted for Primary MA Use
 and Those Admitted for Use of Another Primary Drug**

Characteristic	American Indian Group		All American Indians (n = 2,285)
	MA (n = 587)	Non-MA (n = 1,698)	
Female (%)**	53.2	38.8	42.5
High school education or higher (%)	50.4	58.7	56.5
Employment (full- or part-time) (%)	12.1	10.0	10.5
Disability (%)*	17.9	23.7	22.2
Homeless (%)	31.9	29.8	30.3

* Significant difference between groups at $p < .05$ level.

**Significant difference between groups at $p < .001$ level.

Days of Use at treatment admission and discharge for MA and non-MA groups

Table 2 provides a summary of primary drug use for all participants who reported at least 1 day of drug use in the 30 days prior to treatment admission. Overall, MA users used a mean of 12 days ($SD = 10.5$) in the prior 30 days and non-MA users used a mean of 15 days ($SD = 11.3$), $t(666) = -3.322$, $p < .01$. Primary MA users who entered residential treatment reported significantly more use in the prior 30 days ($M = 14.8$, $SD = 10.3$) compared to MA users who entered outpatient treatment ($M = 8.5$, $SD = 9.4$), $t(169) = -4.172$, $p < .001$. There were no significant differences in drug use during the prior 30 days between non-MA users entering residential and outpatient treatment.

Discharge information on those drugs included in the non-MA group were also examined to determine if there were any differences in

reported use by treatment modality. Treatment participants reporting primary alcohol and primary cocaine use fared significantly better in residential treatment, as measured by the number of days used at discharge. Among alcohol users, participants in residential treatment reported fewer days used at discharge ($M = 3.3$, $SD = 7.7$) than did participants in outpatient treatment ($M = 6.9$, $SD = 10.9$), $t(126) = 2.068$, $p < .05$. Similarly, cocaine users in residential treatment reported fewer days of use ($M = 1.8$, $SD = 5.1$) at discharge compared to their counterparts in outpatient treatment ($M = 7$, $SD = 11$), $t(71) = 2.760$, $p < .05$. There were no significant differences in reported use at discharge by treatment modality found for the MA and other primary drugs included in the non-MA group.

Table 2
**Mean Days of Primary Drug Use in the Prior 30 Days for AI/ANs
Who Reported at Least 1 Day of Use**

Primary Drug	<i>N</i>	Mean Days of Primary Drug Use			
		Admission	<i>SD</i>	Discharge	<i>SD</i>
Alcohol	210	14.1	11	5.4	9.6
Cocaine	98	13.1	10.7	3.7	8.1
Heroin	103	19.1	12.1	10.9	13.1
Marijuana	68	14.8	10.2	6.7	9.8
Methamphetamine (MA)	189	12	10.5	3.8	8.1
Non-MA	479	15.1*	11.3	6.2*	10.3

* Significant difference between groups at $p < .01$ level.

When examining days of use from admission to discharge, the MA group reduced their use of MA by about 68% to 3.8 days ($SD = 8.1$) in the past 30 days. By comparison, the non-MA group reduced their drug use by about 59% to 6.2 days ($SD = 10.3$), $t(666) = -2.526$, $p < .05$. It is interesting to note that the MA group and cocaine users in the non-MA group had similar rates of use at both treatment admission and discharge. In addition, participants in the MA group remained in treatment for a mean of 95.9 days ($SD = 112$), which was similar to the primary cocaine users who stayed in treatment for a mean of 92.8 days ($SD = 147$), $t(724) = 0.324$, $p = .746$.

Discussion

Substance use data among urban AI/AN populations are scarce. The purpose of the present study was to explore the rates of MA use among AI/AN adults seeking treatment in Los Angeles County. Since 2001, the percentage of AI/AN individuals entering treatment in Los Angeles County for primary MA use has increased. The pattern appears to be more pronounced among AI/AN females. This finding of more MA use among females is consistent with studies of non-AI/AN populations (Brecht, O'Brien, von Mayrhauser, & Anglin, 2004).

Positive treatment outcomes were observed for AI/AN individuals in both the MA and non-MA groups. Both groups reported fewer days of use at treatment discharge than at admission. While participants entering residential treatment for primary MA use reported more days of use than did participants entering outpatient treatment for MA, there was no significant difference in reported use at discharge between participants completing residential and outpatient treatment. Given the scope of MA use in Los Angeles County and on the West Coast in general, it is encouraging to discover signs of improvement for AI/AN individuals receiving standard substance abuse treatment in Los Angeles County. The current findings correspond well with the California-based treatment outcome study, documented by Evans et al. (2006), which found that AI/AN primary alcohol users fared well in mainstream treatment and, in some areas, showed greater progress than the non-AI/AN comparison group.

There are several limitations to this study. First, there is the potential for underreporting AI/ANs in the LACPRS database. Misidentification of AI/ANs has been reported in studies of death records in California (Epstein, Moreno, & Bacchetti, 1997). In addition, Frith-Smith and Singleton (2000) found that underreporting of AI/ANs in a variety of health systems is problematic in Los Angeles County. A significant number of AI/ANs in California are multiracial, and it is possible that some AI/ANs noted "mixed race" at treatment admission or were misclassified by the admission counselors administering the LACPRS questionnaire. The authors did not have access to data for individuals who self-identified as mixed race and could not determine whether any of those individuals were from AI/AN backgrounds.

Second, the data for this study were treatment admission data for publicly funded treatment programs. As such, individuals who sought treatment through private sources are not included in these data. Additionally, because these are treatment data, they do not indicate

or measure the actual impact of MA within AI/AN communities. Many people with substance abuse problems do not seek treatment or cannot access treatment. Access to specialty treatment and health care services in general is a serious challenge for many AI/ANs (Jones, 2006; Frith-Smith & Singleton, 2000). A national study conducted by Zuckerman, Haley, Roubideaux, and Lilli-Blanton (2004) found that in comparison to Whites in the U.S., AI/ANs were significantly less likely to have health insurance and had less access to health services.

Increasingly, MA use in AI/AN communities has been a cause for concern, given the individual and social costs associated with MA abuse and production. National studies by the Substance Abuse and Mental Health Services Administration illustrate the rise in illicit drug use among AI/AN populations and, in particular, the increasing numbers of AI/ANs entering treatment for MA addiction (Office of Applied Studies 2005a, 2005b). The rise in MA use among AI/AN populations is particularly troubling given conditions of poverty, poor health, low education levels, and low employment rates commonly found in AI/AN communities, including those situated in urban areas such as Los Angeles.

In 2006, the Indian Health Service increased its efforts to prevent the production and use of MA and supported a variety of local initiatives, including conferences, clinical training efforts, leadership development, promotion of both mainstream and traditional health practices, and community mobilization efforts. The National Congress of American Indians has recently convened meetings and launched outreach efforts to deal with the problem of MA use (see NCAI, 2007 for information about the "methamphetamine tool kit"). The increase in MA-related problems in AI/AN communities has created an urgent need for additional resources for treatment, social services, law enforcement, and environmental protection.

Conclusion

The present study provides a window into the prevalence of MA use among AI/ANs in Los Angeles County. The findings from this study raise additional questions that could be explored in future research. Now that we have data on MA use among AI/AN individuals seeking treatment, it is important to understand the various pathways to MA use among AI/AN males and females and to describe the social, cultural, and economic contexts within which MA use occurs.

Some research suggests that substance use by AI/AN populations may be associated with acculturation stress; that is, the response to the

pressures of assimilation within the dominant culture (LaFromboise, Berman, & Sohi, 1994). Urban AI/ANs may be particularly vulnerable to acculturation stress due to their greater level of interaction with majority cultures through work, school, and other social settings. AI/ANs in Los Angeles County are geographically dispersed and live among diverse ethnic groups, including African Americans, Asian Americans, and Latinos (Clark, 2006). Given the extent of MA use among the broader White and Latino populations in Los Angeles County (Crèvecœur, Snow, & Rawson, 2006), one could hypothesize that MA use among urban AI/ANs may be associated with greater levels of assimilation into the majority culture.

Future research may also include an examination of the health-related impacts of MA use, particularly the incidence of HIV and other sexually transmitted diseases. The relationship between MA use and high-risk sexual behaviors is a serious public health concern (Mansergh et al., 2006). In 2005, Los Angeles County ADPA added questions about medical status and infectious diseases to the LACPRS questionnaire. Subsequent analyses of the LACPRS data may focus on the overall health and medical status of AI/ANs in treatment and, in particular, the rate of infectious diseases among AI/AN primary MA users.

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Footnotes

¹ Carise and McLellan (1999) adapted the Addiction Severity Index for use with American Indians in North Dakota. We are unaware of the extent to which the adapted version is used by service providers outside North Dakota.

² When examining mean days of drug use, only data from 2003-2005 were used. No data on days of drug use were available prior to 2003.

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Appendix

**Appendix Table A
AI/AN Primary MA Users in Treatment
2001-2005 (*n* = 587)**

Year	Male (%)	Female (%)
2001	57 (42.9)	76 (57.1)
2001	45 (50.6)	44 (49.4)
2003	49 (59.8)	33 (40.2)
2004	31 (44.3)	39 (55.7)
2005	93 (43.7)	120 (56.3)